ROHM AND HAAS COMPANY

Bristol, Pa., May 17, 1968

EMBINEERINE DIVISION

COMPANY CONFIDENTIAL

CC: Mr. Klein Mr. Asay

Mr. Paist Mr. Parker

Dr. Butterbaugh Mr. Rarig

Mr. Edwards Mr. Geniesse

Mr. Sawyer Mr. Trout (3)

Mr. lezzi

. REPORT:

R. L. DeWi

· SUBJECT:

Expansion of Well Water Treatment Operation at Whitmoyer Laboratories

Certain additions to the method of treatment covered in the \$72,000 project described in the report of May 2, 1968 could be advantageous.

The \$72,000 project was based on the use of the existing lagoons to presettle the arsenic precipitate prior to a final polishing by a plate-and-frame filter before creek discharge. The partial replenishing of the underground water table via these earth-bottom lagoons imposes an added burden on the "mining" of these waters which could be obviated by filtering up to 240 gpm continuously, without presettling, in a rotary vacuum filter with all of its necessary satellite equipment. Housing this filter and its adjunct equipment would require a temporary structure. Before sizing the structure, we learned from Mr. Trout that he would like to use the Building 9 area now housing the equipment processing 50 gpm from the existing wells as garage space. The proposed 50' x 40' building would house not only the rotary vacuum filtering equipment, but would be large enough to house the two 6500 gallon reactors and charging facilities which, in the project costing \$72,000, would have replaced the smaller reactors in one corner of Building 9.

In addition to the changed filtration facilities, improved safety measures have been incorporated. An impervious lagoon, capable of holding a full day's run, would be used for diverting the flow away from the Tulpehocken Creek in the event of an equipment or operating failure anywhere in the system. Also, the Tulpehocken would be monitored downstream from the Whitmoyer plant and the monitor would provide a source of automatic signaling and flow diversion when arsenic levels rose to unsafe limits.

Sludge handling, which was not a part of the \$72,000 project, is included in the expanded project. The sludge would be accumulated at the plant site in a covered impervious basin.

These additions to the project are very roughly estimated to cost \$229,000. When added to the \$72,000 project, and making an allowance for the replacement of the filtering system envisioned by that project, the total cost for handling

AR 100134

May 17, 1968

the arsenical water is \$290,000. The details are shown below:

EXPANSION ITEMS FOR WELL WATER FACILITY Whitmoyer Laboratories, Myerstown, Pa.

and the control of th	
Installation of rotary vacuum filtration equipment	\$ 131,000
Construction of a 50° x 40° treatment and filtratic building	on 38,000
Construction of an impervious basin to catch plant discharges during periods of mal-operation	25,000
Installation of stream protection instrumentation	14,000
Installation of sludge handling equipment	21,000
Installation of water treatment equipment (Estimate of \$72,000 in R.L. DeWitt's Report of 5/	\$ 229,000
less \$12,000 for removing plate-and-frame filter associated with that project)	
Estimate for total installation	\$ 289,000
Round off to	\$ 290,000

Details of the monthly processing cost estimate of \$23,185 at a 210 gpm rate and \$20,555 at a 150 gpm rate are given on the attached sheets.

The single line diagrams, the processing methods, and the safety procedures involved in the above project were discussed with Mr. Iezzi on May 17, 1968.

R. L. DeWitt

RLD/dmr Attach.

		NGINEER	ING D	VISIO	A	No.
adali Mare	3	COST	CESSING ESTIMATE	,		Page 1 Isaued Revised
PREDUCTS Waste Wel	r Labs., Inc.	, Myerstown	, Pa.		DATE:5	- 17- 68
Pagesas Well Wate	r Treatment	and Filtrat	ion		-4	
PRODUCTIONXXXXXXXX	9.060.000	gal/mo. (210)		
MER/Sucre 2	Suto	14/DAY 3		72/1987H	30	
+ 1 day	man (9 total)		<u> </u>		
MATERIALS	· · · · · · · · · · · · · · · · · · ·	LB. Usage Pre M Gal.	LB	YMo.	UNIT COST/	
Ferric Sulfate		25.0	227,0	200	\$ 58.85	s 6680
Lime		11.5	104,	500	21.50	1125
	·					
		<u>.</u>	MATERIAL O	AEBHL'S		
• .	•		LIOTAL MATE			8 7805
119	illeries Samuer		-	AT 360	OO/yr/man	s 4500
UTILITY	Usage Pen Mol Um	T COST COST	SALA	115 257		1125
LECTRIC POWER	696 CKWH : 1	.01 2 704	1.422	& SALARY	047/30%	2447
HOCESS WATER				188		40
TOLENG HATER				TIES		1579
MEATER WATER			- Guari	TY CONTRO		1000
ATUPAL SAS			_		TENANCE 5 . 25%	1465
EPAIGENATION		10		CONTECLL	ABLE	190
HSTRUMENT ALA			<u> </u>			

ELECTRIC POWER	696 CKWH	\$ 1.01	1 704
PROCESS WATER			
CIOLENG JATER			
TREATED WATER			<u> </u>
NATURAL GAS			1
REPRIGERATION			
INSTRUMENT ALA			10
INERT GAS	- 1		
WASTE TREATMENT			
Severa			
STEM			
Solids Tradeport	173.5 Tons	5.00	865
-		Ļ	1
V and a s		•	0 1570

* Solids accumulated at Plant Site

AR 66-915-1

\$45,000 \$290,000 (Pump)
(Treat and filter) Estimate 5/17/68

\$335,000 AR100136 Inv. Total

Later Ar 36000/yr/man	8 4500	ls 0.496
SALARIES 25%	1125	0.124
LABOR & SALARY 047/30%	2447	0.269
I SPALIES	40_	0,004
Utilities	1579	0.174
GUALITY CONTROL	1000	0.110
REPAIRS & MAINTENANCE 5.25		0.162
OTHER CONTROLLABLE	180	0.020
	40.00	250
TOTAL CONTROLLARE	12.336	1.359
Orpere lation 11 yr.	2540	0.280
FROP. O.H. # \$ 1.50/RSCOO SHUTDOWN RESERVE	504	0.056
Toral Assigner	8 3044	e 0.330
PRODUCTION DEVEL.		
TOTAL NON-ACCUBBING	8	8
	<u> </u>	
Below Line	15,380	1.015
Total Cost to Inventory 10-0	23,185	\$ 2.557

RLD

0.738 0.124

0.862

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ENGINEERING DIVISION

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PROCESSING COST ESTIMATE

Page 1 of 1 Icaued 5-17-68 Ravised_

Passuct: Waste Well Water		فيند ومسارات واستنجاز المنب السابع المسا	DATE: 5-17-68 3Y: RLD		
	atment and Filt				
<u> </u>					
Mrs/Suipr 2	Suiera/Day 3	Days Man	zu 30		
+ 1 day man (9	USAGE PER M	QUANTITY/Mo.	Umit Cost/Tos	Cost Mo.	Cost Pre
Ferric Sulfate	25.00	162,000	13 58.85	4760	Ga1
Lime	11.50	74,500	21.50	800	0.124
			- 	ļ	
		<u> </u>			
		 		}	
				 	
		 -	- }	 	-}
		 			
					
		<u> </u>			
•		MATERIAL DYERHY : 3		\$ 5560	S 0.862
				^	
ilterates \$	MALE	LABOR AT S	000/yr/man	9 4500	3 0.695
	Mo. UNIT COST COST			1125	0.174

	teretes Some	\. X.Y		
UTILITY	MEASE PER MO. UNIT COST		Cost	
Eutoraic Pouta	557 CKWH	21.01	2 564	
PROCESS WATER	<u> </u>			
GIGLING WATER	<u> </u>		<u></u> _	
TREATED WATER		1		
NATURAL 345				
REPRIGERATION		<u> </u>		
INSTRUMENT ALA			10	
INERT GAS	·	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
WASTE TREATMENT				
Severs				
STEAM				
Solids Transport	124 Tons	5.00	620	
		•		
		1		
Teras		18	12 1194	

* Solids accumulated at Plant Site

AR 66-915-1

\$45,000 (Pump)

Estimate 5/17/68

\$290,000 (Treat and filter)

Inv. Total

\$335,000

AR100137

Lass At \$6000/yr/man	s 4500	3 0.695
SALARIES 25%	1125	0.174
14178 4 SALARY 3 -47/30%	2447	0.378
7.000.188	40	0.006
SPIE IPPER	1194	0.184
MUNITY CONTROL	1000	0.154
REPAIRS & MAINTENANCES, 257		0.226
OTHER CONTROLLABLE	180	0.028
TOTAL CONTROLLABLE	<u> \$1.951</u>	<u> 1.845</u>
DEPRECIATION 11 YF.	2540	0.392
PROP. D.H. @ 81.50/\$1000	504	0.077
SHUTDOWN RESERVE		
TOTAL ASSIGNED	18 3044	e 0.409
PRODUCTION DEVSE.		
YOTAL NON-SEC 1981 NO	8	\$
Below Line	14,995	2.314

\$0,555

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